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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/619,700

07/14/2003

Toby Smith

P1721US01

3047

22206

7590

11/15/2006

FELLERS SNIDER BLANKENSHIP

BAILEY & TIPPENS

THE KENNEDY BUILDING

321 SOUTH BOSTON SUITE 800

TULSA, OK 74103-3318

EXAMINER

LE, HUYEN D

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/619,700  
Filing Date: July 14, 2003  
Appellant(s): SMITH, TOBY

**MAILED**

**NOV 15 2005**

**Technology Center 2600**

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TERRY L. WATT  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 08/21/2006 appealing from the Office action mailed 07/26/2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

Claims 19, 20 and 21 have been canceled in the instant appeal.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,330,729	BYRNE	5-1982
4,430,529	NAKAGAWA et al.	2-1984

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-7, 9-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Byrne (U.S. patent 4,330,729) in view of Nakagawa (U.S. patent 4,430,529).

Regarding claims 1-3, 5-7, 9-12, 14-16, and 18 Byrne teaches an acoustic generating device that comprises a piezoelectric material (12), a metal diaphragm (10, col. 3, lines 8-10) having a nodal fulcrum as claimed (col. 3, lines 34-49), a housing (20, 22, 32, 42 in Byrne), an electric circuit (14) and mounting devices (figures 2 and 5).

Byrne teaches the mounting devices (20, 24, 22, 30, col. 4, lines 5-8 and lines 13-17) that are constructed of insulating material and positioned at the top and bottom of the metal diaphragm (see figures 2 and 5 and col. 3, lines 66-68 through col. 4, lines 1-25).

Byrne does not specifically teach that the mounting devices support the top and bottom surfaces of the metal diaphragm with an adhesive as claimed. However, it is very well known in the art to provide an adhesive for fixing or connecting the mounting devices to the diaphragm.

Nakagawa teaches an adhesive for connecting the mounting devices to the upper surface and lower surface of the diaphragm (col. 3, lines 29-31 and 59-66, col. 4, lines 42-44, and see figures 6-9).

Since Byrne does teach that the mounting devices support the diaphragm at the node ring, and the diaphragm at the node ring is held stationary (col. 3, lines 44-46); it therefore would have been obvious to one skilled in the art to provide an adhesive or a bonding agent, as taught by Nakagawa, for a reliably keeping stationary the mounting devices (20, 22) of Byrne to the diaphragm.

Regarding claims 4 and 13, Byrne in view of Nakagawa do not specifically teach that the electric circuit is at least partially mounted on a circuit board as claimed. However, providing a circuit board for the electric circuit in a piezoelectric transducer is well known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a circuit board for the electric circuit in the piezoelectric transducer of Byrne for a compact transducer and providing better electrical connections to the device.

#### **(10) Response to Argument**

Responding to the arguments about that the cited references do not contain the piezoelectric device that is mounted on a nodal ring by using an adhesive on both sides of the device, the Appellant should note that Byrne does teach the mounting devices (20, 22, 24, 30) supporting the metal diaphragm at the nodal fulcrum (col. 3, lines 34-49 and lines 66-68 through col. 4, lines 1-25, and figures 2 and 5). Further, Byrne shows the mounting devices (20, 22, 24, 30) that are positioned at the top and bottom surfaces of the diaphragm, and using an adhesive for securing the diaphragm to a support surface of a piezoelectric device is known in the art. Nakagawa teaches an adhesive for connecting the mounting devices to the upper surface and lower surface of the diaphragm (col. 3, lines 29-31 and 59-66, col. 4, lines 42-44, and see figures 6-9).

Since Byrne does teach that a diaphragm can be secured to a support surface by means of clamping or gluing (col. 1, lines 25-29); it therefore would have been obvious to one skilled in the art to provide an adhesive or a bonding agent, as taught by Nakagawa, for a reliably keeping stationary the mounting devices to the diaphragm at the node ring.

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Responding to the arguments about figures 5 and 8, the Appellant should note that figures 5 and 8 are the sectional views. Nakagawa does teach the use of adhesive on both sides of the diaphragm (figures 6 and 9 and see col. 3, lines 61-63 and col. 4, lines 49-52).

Responding to the arguments that Byrne discourages the use of adhesives (col. 1, lines 35-38), the Appellant should note that Byrne just discloses that the diaphragm is attached to the support member by a rubber-like cement which requires a period of time for curing. If the time is not critical, the adhesives can be still used in the device.

Responding to the arguments about the combination of Byrne in view of Nakagawa, the examiner has explained in the Grounds of Rejection. Further, the examiner has provided the Nakagawa reference for the teaching of using the adhesives for better supporting the mounting devices to the upper and lower surfaces of the diaphragm of Byrne. The examiner has not combined the Nakagawa reference for modifying the structure of the Byrne loudspeaker.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
HUYEN LE  
PRIMARY EXAMINER

HL

November 9, 2006

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